

## Case 3164

### ***Kaloterme*s Hagen, 1853 (Insecta, Isoptera): proposed designation of *Termes flavicollis* Fabricius, 1793 as the type species**

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**Abstract.** The purpose of this application is to conserve the current usage of the generic name *Kaloterme*s Hagen, 1853 for a common group of living drywood termites, with Middle Eocene fossil representatives. Wasmann (1897) designated *Termes flavicollis* Fabricius, 1793 as type species of *Kaloterme*s Hagen, 1858 (an unjustified emendation and hence a junior objective synonym of *Kaloterme*s), but this designation was invalid since it was not an originally included species in *Kaloterme*s. The first valid type species designation for *Kaloterme*s was by Banks (1920) who designated *Termes berendtii* Pictet, 1856, but this species had been designated by von Rosen (1913) as type species of *Proelectrotermes* von Rosen, 1913, a genus currently in use for a Middle Eocene species. To conserve current usage of *Kaloterme*s and *Proelectrotermes* it is proposed that *T. flavicollis* be designated as type species of *Kaloterme*s.

**Keywords.** Nomenclature; taxonomy; Isoptera; *Kaloterme*s; *Proelectrotermes*; KALOTERMITIDAE; termites; Middle Eocene; Recent.

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1. Hagen (1853, pp. 479–480) named the termite genus *Kaloterme*s and provided a fairly detailed description of the imago and soldier castes, nymphs, and nest excavations for the group. Even though he did not include any named species the name *Kaloterme*s is available from 1853. The generic description included information on a variety of castes and biological traits, and Hagen probably had before him a living species from which to draw such character information.

2. Hagen (1854, p. 222) again mentioned *Kaloterme*s and for the first time included specific names for two Middle Eocene species, *Kaloterme*s *affinis* Hagen and *K. berendtii* Pictet, but these were not described and are nomina nuda. These two specific names were made available two years later when Hagen (in Pictet & Hagen, 1856) published descriptions and illustrations of *Termes berendtii* which he attributed to Pictet (p. 49) and *T. affinis* Hagen (p. 50) and included both in his ‘gruppe’ *Kaloterme*s. It has commonly been believed that Hagen also included *T. flavicollis* Fabricius, 1793 (p. 91, published as *T. flavicolle* but changed to *T. flavicollis* in accordance with Article 34.2 of the Code) in *Kaloterme*s at this time (e.g., Krishna,

1961; Watson, Miller & Abbey, 1998). However, Hagen did not explicitly assign *T. flavicollis* to *Kaloterme*s but merely provided comparative comments distinguishing *T. flavicollis* from the fossil species. Hagen made similar comparisons to other living species that were also not explicitly included in *Kaloterme*s. Only the fossils *T. berendtii* and *T. affinis* were explicitly included in *Kaloterme*s, and these are thus the only originally included species (Article 67.2.2). Both fossils were (and still are) known only on the basis of the imago caste and could not have provided Hagen with the character information from the soldier caste, nymphs, and nesting biology upon which he (Hagen, 1853) had established the genus.

3. Hagen (1858, pp. 32–33) emended the spelling of the genus to *Caloterme*s, noting *Kaloterme*s as a synonym; he expanded the definition of the genus, listing 20 species among which were both fossil species from his 1854 and 1856 papers as well as *T. flavicollis*. *Caloterme*s Hagen, 1858 is an unjustified emendation (Article 33.2) and an available name, but a junior objective synonym of *Kaloterme*s.

4. Wasmann (1897, p. 150), using Hagen's emended spelling, designated *T. flavicollis* as type species of *Caloterme*s; however this designation was not valid (Article 67.8.1) since *T. flavicollis* was not an originally included species in *Kaloterme*s, the senior objective synonym of *Caloterme*s.

5. Von Rosen (1913, p. 331), in a work summarizing the known fossil termites, described two new subgenera of *Caloterme*s for Pictet & Hagen's (1856) fossil species: *Proelectrotermes* with *T. berendtii* as type species by original designation and monotypy, and *Electrotermes* with *T. affinis* as type species by original designation.

6. Banks (in Banks & Snyder, 1920, p. 9), in a revision of Nearctic termites, designated *T. berendtii* Pictet as type species for *Kaloterme*s but continued to include in the genus the living drywood termite species related to *T. flavicollis*. This type species designation is valid since *T. berendtii* was an originally included species in *Kaloterme*s as of 1856. *T. berendtii* also becomes the type species of *Caloterme*s.

7. Snyder (1949, p. 11), in a catalog of termite species of the world, considered *Caloterme*s to have been an unjustified emendation of *Kaloterme*s and listed *T. flavicollis* as the type species for *Kaloterme*s, citing Wasmann (1897) for the designation.

8. In the first half of the 20th century both *Kaloterme*s and *Caloterme*s were in common usage for the same group of living drywood termites. Examples of uses of *Caloterme*s include Desneux (1904), Silvestri (1901, 1934), Holmgren (1910), Sjöstedt (1907, 1926), and Grassé (1949), while uses of *Kaloterme*s include Banks & Snyder (1920), Snyder (1925, 1935, 1949), Emerson (1928, 1942, 1955, 1969), Hare (1937), Coaton (1949), Ahmad (1950), Stroud (1953), and Weidner (1955).

9. Krishna (1961, pp. 331–332), in a generic revision of the drywood termite family KALOTERMITIDAE, adopted the name *Kaloterme*s, with *T. flavicollis* as type species on the grounds that Hagen (1853) based his definition on a living termite species the description of which fits *T. flavicollis*.

10. Subsequent to Krishna (1961) all authors referring to drywood termites related to *T. flavicollis* have used the name *Kaloterme*s Hagen with *T. flavicollis* as type species (e.g., Miller, 1969; Weidner, 1970; Spear, 1970; Harris, 1971; Noirot & Noirot-Timotheé, 1972; Becker, 1973; Gay, 1977; Roonwal & Chhotani, 1989; Watson & Gay, 1991; Constantino, 1998; Watson, Miller & Abbey, 1998). *Caloterme*s Hagen, 1858 has universally and correctly been cited as a junior objective

synonym and an unjustified emendation. *Proelectrotermes* is formally a junior objective synonym of *Kalotermes* following Banks's (1920) type species designation of *T. berendtii* Pictet for *Kalotermes*, even though *Proelectrotermes* has been universally treated as the name for the monotypic fossil genus based on *T. berendtii* for more than 45 years.

11. Presently involved in a new catalogue of living and fossil species for the world and attempting to stabilize the nomenclature of termites, we propose that all type species designations for *Kalotermes* be set aside and *T. flavicollis* be designated as the type species for *Kalotermes*, thereby conserving the current usage of the generic names *Kalotermes* and *Proelectrotermes*.

12. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all previous fixations of type species for the nominal genus *Kalotermes* Hagen, 1853 and to designate *Termes flavicollis* Fabricius, 1793 as type species;
- (2) to place on the Official List of Generic Names in Zoology the following names:
  - (a) *Kalotermes* Hagen, 1853 (gender: masculine), type species by designation in (1) above *Termes flavicollis* Fabricius, 1793;
  - (b) *Proelectrotermes* von Rosen, 1913 (gender: masculine), type species by original designation and monotypy *Termes berendtii* Pictet, 1856;
- (3) to place on the Official List of Specific Names in Zoology the following names:
  - (a) *flavicollis* Fabricius, 1793, as published in the binomen *Termes flavicolle* (specific name of the type species of *Kalotermes* Hagen, 1853);
  - (b) *berendtii* Pictet, 1856, as published in the binomen *Termes berendtii* (specific name of the type species of *Proelectrotermes* von Rosen, 1913);
- (4) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name *Calotermes* Hagen, 1858 (a junior objective synonym of *Kalotermes* Hagen, 1853).

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